StructARTs DApp

StructARTs DApp: A software which allows architects, mechanical engineers, electrical engineers and civil engineers to trade their architectural designs, machine designs, circuit designs and structural designs powered by the Choice Coin on the algorand blockchain.

SructARTs

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Request for Funding
Grant Category: Application
Focus Area: Web3

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Executive Summary

The StructARTs Dapp is a web application created mainly for architects and engineers for the purpose of trading their creative designs using the Choice Coin ASA. There are little or no platforms for engineers and architects on the Algorand blockchain, this project seeks to utilize this opportunity to create a decentralized platform of sharing opinions and trading designs for the aforementioned purpose.

Core Team

Ayuba Ezekiel | Software Engineer

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GitHub: https://github.com/ayuba-hub

Discord ID: Ayuba#0244

Bio: A software engineer, cryptographer, python and JavaScript full stack developer with good knowledge of cyber security.

Julie Oligbo | Graphics Designer

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GitHub: https://github.com/Oligbojulie

Discord ID: Oligbojulie#0994

Bio: A mechanical engineer, creates 2D/3D architectural designs, professional drawings such as interior, exterior designs, floor plan, section, elevation detailing drawing, animation and walkthrough. Advance knowledge on the use of Revit, Lumion, and AutoCAD software.

Mujeeb Temitope | Python Developer

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GitHub: https://github.com/_Temitopeishola

Discord: temitope#1642

Bio: Expertise in python3, django web framework, and a Data Scientist with advanced skills in data analytics.

Problem Description

Current construction engineering management suffers numerous challenges in terms of the trust, information sharing, and process automation [1]. Firms have internally digitalized architectural design and engineering processes, tendering and contracting, the fabrication of components and have automatized the operation of buildings. Still, a recent study by McKinsey has rated the speed at which the construction sector is travelling towards a digital future as low, just above agriculture and hunting [2]. Technological advancements in the construction industry have been less effective in comparison with other industries such as logistics, automotive and mechanical engineering [3]. There are strong needs for more platforms which allows trading of engineering designs with respect to blockchain as a way that will easily allow engineers make profits for their creative designs and buyers easily find the right design suitable the individual.

Solution Approach

A website is created with a mediating page between the buyers and the sellers coupled with a dashboard for each connected wallet address, each respected dashboard will consist of history of transactions of the user and mintables, the intermediate page consists of a function in background that charges fee after each successful transaction and releases the product design to the dashboard of the buyer while it settles and notifies the seller of all completed transactions.

Milestone	**Tasks Involved**
System Analysis	• Interpretation of the facts, identifications of the underlying problems, and creation of the system into its various components.
System Modelling	• Graphical modelling of system function and architecture as a viewpoint for system design.
System Design	• Using the template from system analysis, the various components consist of the API and UI/UX. The development team are to focus on accomplishing the system objectives programmatically.
Website Launch	• Website is launched alongside its whitepaper and roadmap
App creation on TestNet	• Creating the app programmatically on TestNet
App Launch on TestNet	• The created app is launched on TestNet to generate reports on bugs.
App Launch on MainNet	• After security audit and bug fixes on TestNet, the app is then launched on MainNet to enable trading

Future Goals

Independent token: Once value is captured for the StructARTs DApp, we wish to create its independent token separate from Choice Coin which will be built on Algorand blockchain.

Expanding partnership and Corporations with different Engineering and Architectural industry: We will reach out to various engineering fields to partner with us so as to utilize various designs and encourage upcoming architects and engineers.

Creation of similar platform for other professional discipline: In the future similar platforms will be created for various professional disciplines such as agriculture, robotics, artificial intelligence, etc.

Milestone	Deliverables	Schedule	Team Member
System Analysis	A detail report of logics and feasible components of the system and security requirements.	4 weeks	All Team members; Supervised by Temitope Mujeeb
System Modeling	Function and architectural model, Logic diagrams and wireframes for the proposed system.	4 weeks	All Team members; Supervised by Temitope Mujeeb
System Design	UI/UX and conceptual API design both graphically and programmatically using suitable web frameworks on a localhost.	16 weeks	All Team Members; Supervised by Julie Oligbo
Website Launch	A deployed website which consist of the whitepaper, a roadmap and a link to the app.	1 week	All team members; supervised by Julie Oligbo
App creation on TestNet	GitHub TestNet working code for cloning and testing	10 weeks	All team members; Supervised by Ayuba Ezekiel
App Launch on TestNet	A deployed app created from the model on TestNet for the purpose of security audit.	4weeks	All team members; Supervised by Edicha Joshua and Ayuba Ezekiel
App Launch on MainNet	A final deployed version of the modelled app after security audit.	4 weeks	All team members; Supervised by Ayuba Ezekiel

Budget and Costs

Milestone	Request in Dollars
System Analysis	2,500
System Modelling	2,500
System Design	5,000
Website Launch	5,000
App creations on TestNet	45,000
App launch on TestNet	0
App Launch on MainNet	50,000
Total Cost	110,000

Reporting Obligations

Report	Description	Time
Milestone	Provide a report of each milestone at delivery alongside a demo. ~500 words	At the end of each milestone
Final	Provide a report of the deliverables at the completion of the finances. ~1,500 words.	At the completion of the poject and feedback

Reference

[1] J. WANG, P. WU, X. WANG, and W. SHOU, "The outlook of blockchain technology for construction engineering management," *Front. Eng. Manag.*, vol. 4, no. 1, p. 67, 2017, doi: 10.15302/j-fem-2017006.

[2] I. Belle, "The architecture, engineering and construction industry and blockchain technology," *Proc. 2017 Natl. Conf. Digit. Technol. Archit. Educ. DADA 2017 Int. Conf. Digit. Archit.*, no. September 2017, pp. 279–284, 2017, [Online]. Available: https://www.researchgate.net/publication/322468019.

[3] M. Kassem, J. Lia, and D. Greenwood, "Blockchain in the built environment: analysing current applications and developing an emergent framework," pp. 59–66, 2018, doi: 10.3311/ccc2018-009.